

Application Serial No: 09/851,376

Attorney Docket No.: ACT-131**REMARKS**

Entry of the foregoing, reexamination and reconsideration of the subject matter identified in caption, as amended, in light of the remarks which follow are respectfully requested.

By the foregoing amendments, claim 36 has been canceled, and the features thereof have been incorporated into claim 35. Thus, independent claim 35 as amended recites that the first and second carrier bodies are silicon carrier bodies. Entry of the amendments is proper at least because finality of the outstanding Official Action was premature, for the reasons set forth below. In addition, no new issues have been raised by the amendments as claim 36 was previously examined.

Upon entry of the amendments, claims 1-6, 8-20, 22-35 and 37-42 will be pending in the application.

**1. Request to Withdraw Finality**

Applicants respectfully request that the "final" status of the outstanding Official Action be withdrawn, as being premature. In this regard, MPEP 706.07(a) states that:

[S]econd or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement . . . .

For at least the reasons that follow, a new ground of rejection was presented in the final Official Action that was not necessitated by applicants' previous claim amendments.

Taking claim 12 (which depends from claim 1) as an example, it is noted that this claim as originally presented is substantively identical to its amended form, with exception that the amended claim recites that the opposite first and second inclined surfaces are "non-parallel." This "non-parallel" recitation, however, cannot properly be said to have necessitated the new grounds for rejection at least with respect to claim 12. In this regard, the Examiner in the first Official Action rejected claim 12 (among other claims) under 35 U.S.C. §103(a) over *Liu et al* (U.S. Patent No. 6,246,812), *Shahid* (U.S. Patent No. 6,246,812), and *Cherin et al* (U.S. Patent No. 4,142,776), relying on *Cherin et*

Application Serial No: 09/851,376

Attorney Docket No.: ACT-131

al for that document's waveguide carrier geometry. The grounds for rejection of amended claim 12 in the final Official Action are based on §103(c) over *Cherin et al* in view of *Woith* (U.S. Patent No. 4,810,053). This new rejection at least as applied to claim 12 was clearly not necessitated by the amendments.

Accordingly, withdrawal of the "final" status of the Official Action is respectfully requested.

## 2. Request for Reconsideration

Claims 1-6, 9-20 and 23-42 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Cherin et al* (U.S. Patent No. 4,142,776) in view of *Woith* (U.S. Patent No. 4,810,053). In addition, claims 8 and 22 stand rejected under 35 U.S.C. §103(x) as being unpatentable over *Cherin et al* in view of *Woith*, and further in view of *Cherin et al*.<sup>1</sup> These rejections are respectfully traversed for at least the following reasons.

The present invention relates to optical waveguide ferrules and to methods for methods of making optical waveguide ferrules. Based on a complete understanding of the present invention, it is respectfully submitted that the claims cannot properly be rejected based on the teachings of *Cherin et al* in combination with *Woith*.

*Cherin et al* relates to the splicing or optical joining of several optical fibers of a first group to corresponding fibers of a second group (col. 1, lines 6-8). With reference to FIG. 1, *Cherin* discloses an optical fiber ribbon connector 10 that includes a fiber-receiving substrate 11, a substrate cover 12, a chambered cartridge 13 which receives two substrate-cover assemblies to be mated, and two end caps 14. Substrate 11 comprises a cavity 15 running lengthwise and including a number of V-shaped parallel fiber-receiving grooves 17. (Col. 2, lines 55-63). The grooves 17 are of such depth and angularity that, when optical fibers 18 are placed therein, the fiber tops are approximately even with or slightly above the apexes formed by adjacent grooves (col. 3, lines 26-32). The substrate cover 12 has a ridge 19 extending therefrom to mate with the substrate cavity 15 and touching the fibers 18 (col. 3, lines 30-32). In a further embodiment described with reference to FIG. 5, *Cherin et al* discloses that the fibers can advantageously fit into the

---

<sup>1</sup> The grounds for this rejection are not clear to applicant. It is assumed that 103(x) is a typographical error and that 103(a) was intended. The use of *Cherin et al* in view of *Woith*, and further in view of the same *Cherin* document is not understood. Clarification is respectfully requested.

Application Serial No: 09/851,376

Attorney Docket No.: ACT-131

insert grooves so that the fiber tops are at the same height as the apexes which separate the grooves, and the cover 52 includes two extenders 55 which may be compliant, and which engage the fibers to secure them in abutting positions (col. 4, lines 49-55).

#### Independent Claims 1 and 15

*Cherin et al* does not disclose or suggest each feature of the present invention as set forth in independent claims 1, 15. For example, *Cherin et al* does not disclose or fairly suggest an optical waveguide ferrule having first and second grooves aligned with one another to define an elongate cavity which extends lengthwise in the longitudinal direction and containing an optical waveguide as set forth in claim 1, or such a structure having a plurality of grooves and optical waveguides as set forth in independent claim 15. In none of the embodiments disclosed by *Cherin et al* does the lid have a groove defining an elongate cavity with the V-shaped grooves of the receiving substrate.

To cure this deficiency in the primary reference, the Official Action relies on *Woith*, which relates to a clamping device for positioning and retaining an optical fiber at the focal point of a lens (col. 1, lines 10-12). This combination with *Woith* is completely improper.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation to combine the reference teachings and there must be a reasonable expectation of success. These must both be found in the prior art, and not in applicant's disclosure. *In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991). There is simply no motivation or reasonable expectation of success to combine *Cherin et al* and *Woith* as proposed in the Official Action. In support of the rejection, the Examiner proposes the following motivation for modifying *Cherin et al*:

[I]t would have been obvious to . . . modify the carrier bodies of *Cherin et al*. and provide grooves on the both the carrier bodies as taught by *Woith*, so that groove depth can be on each of the carrier body can be reduced. (Official Action at pages 2-3).

This motivational statement cannot properly support an obviousness rejection. It is unclear to applicant, and further there appears to be no teaching in either document, as to whether one would want to reduce groove depth in the carrier body. That a reduced

Application Serial No: 09/851,376  
Attorney Docket No.: ACT-131

groove depth might result from the proposed modification is not a reason for making the modification. The rejection is improper at least for this reason.

The fact that *Cherin et al* discloses the use of V-grooves in the receiving substrate renders the proposed modification all the more suspect. More specifically, that *Cherin et al* recognizes the use of V-grooves for the receiving substrate and fails to even hint at their use in the substrate cover would, if anything, amount to a teaching away from the proposed combination with *Woith*. Accordingly, the rejection with respect to independent claims 1 and 15, and the claims dependent thereon, is improper and should be withdrawn.

#### Independent Claims 29 and 40

Independent claims 29 and 40 set forth methods of making an optical waveguide ferrule. Applicant notes that the documents are not even remotely suggestive of the presently claimed methods.

The Official Action correctly recognizes that *Cherin et al* discloses that only an insert is made of silicon, but improperly concludes that it would have been obvious to "make both the carrier bodies from silicon material" (Official Action at page 3). *Cherin et al* specifically discloses that "[a] dvantageously, each of these parts so far described are fabricated by injection molding to ensure achievement of required tight tolerances" (col. 3, lines 56-58). Quite clearly, *Cherin et al* requires the use of injection molding to form the receiving substrate and lid for the required tight tolerances, notwithstanding the V-groove insert of Figure 5 which can be made of silicon. Accordingly, *Cherin et al* is in no way suggestive of the use of silicon for the receiving substrate and lid.

Official Notice is improperly taken in the Official Action for the propositions "that separating first and second carrier bodies into discrete chips by an etching process or a dicing saw is well known in the art of silicon chip etching and formation." The Official Action then erroneously concludes "[i]t would have been obvious . . . to use etching or a dicing saw to form the silicon chips disclosed by *Cherin et al*. (Official Action at page 3). Applicant respectfully requests that the Examiner provide documentary evidence in support of this position. Alternatively, the Examiner is requested to provide an affidavit or declaration under 37 C.F.R. 1.104(d)(2) to support

Application Serial No: 09/851,376  
Attorney Docket No.: ACT-131

the position. In the absence of such documentary evidence, affidavit or declaration, the rejection cannot stand.

As for the statement that "[i]t would have been obvious . . . to use etching or a dicing saw to form the silicon chips disclosed by Cherin et al" (Id.), the only silicon component disclosed by *Cherin et al* is the V-groove insert of Figure 5. Neither the receiving substrate (except for the insert) nor the lid are formed of silicon – quite to the contrary, they are an injection molded material.

In short, applicant's methods of claim 29 and the claims dependent thereon are not disclosed or suggested by the applied documents.

#### Independent Claim 35

Independent claim 35 sets forth an optical waveguide ferrule. The combination of *Cherin et al* and *Woith* does not disclose or suggest each feature of claim 35. For example, the applied documents do not disclose or suggest a first silicon carrier body having a first principal surface and a second silicon carrier body having a second principal surface which confronts the first principal surface. As described above with respect to claims 29 and 40, there is no suggestion that the *Cherin et al* receiving substrate (except for the insert) or the lid can or should be formed of silicon. To the contrary, *Cherin et al* discloses that they are formed of an injection molded material.

Thus, no *prima facie* case of obviousness is present with respect to claim 35 and the claims dependent thereon.

For at least the foregoing reasons, withdrawal of these rejections is respectfully requested.

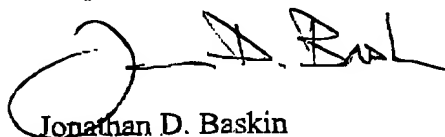
From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

Application Serial No: 09/851,376

Attorney Docket No.: ACT-131

If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned to expedite prosecution of the application.

Respectfully submitted,



Jonathan D. Baskin

Attorney for Applicant

Registration No. 39,499

Telephone No.: (508) 787-4766

Facsimile No.: (508) 787-4730

c/o EDWARDS & ANGELL, LLP  
P.O. Box 9169  
Boston, Massachusetts 02209  
Date: January 2, 2004

**FAX RECEIVED**

JAN 05 2004

TECHNOLOGY CENTER 2800